Amendments to the Specification:

Please replace paragraph [0164] with the following amended paragraph:

Equation 14 can be rewritten as a difference equation, as shown in Equation 15, which represents a linear time invariant discrete time system:

$$y[n] = -\sum_{k=1}^{8} a_k y[n-k] + \sum_{k=0}^{5} b_k u[n-k] \qquad \text{Equation 15}$$

where $y[n]$ is the digitised EEG signal, $u[n]$ is a Gaussian white noise process and a_k and b_k are coefficients to be determined for a given EEG time series. More specifically, $u[n]$ represents a sequence of normally (Gaussian) distributed uncorrelated random variables and in the context of the analysis herein is used to represent the driving input to the fixed order ARMA model. From a physiological perspective it corresponds to the input the cortex receives which is assumed to be so complicated to be indistinguishable from white noise.